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Appendix H, Simulations Analysis

Charlotte Douglas International Airport

DRAFT – August 2024

PREPARED FOR
Charlotte Douglas International Airport

PRESENTED BY
Landrum & Brown, Incorporated

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Appendix H, Simulations Analysis

H.1 Introduction

As part of the Charlotte Douglas International Airport (CLT) Part 150 Study, Landrum & Brown (L&B) conducted a simulation modeling analysis of select alternatives using the Air Traffic Optimization (AirTOP) model, a rule-based, fast-time simulation tool. AirTOP computes aircraft travel times and delay statistics which are used as evaluation metrics to determine differences between various simulated alternatives.

The simulation study focuses on airport operations in 2028, the first full year of operations after the opening of the new fourth parallel runway. The aim of the simulations was to quantify the operational impact of the noise abatement alternatives compared to the Future (2028) Baseline operating conditions (see **Appendix E, *Noise Abatement Alternatives,*** for more information).

H.2 Design Day Flight Schedule

The design day flight schedule forecasts 1,860 daily operations at CLT.[1] The design day represents operations on an average day in the peak month (PMAD). The use of a PMAD schedule instead of an average annual day for airside simulation modeling is a standard planning practice as discussed in Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5060-6B, *Airport Master Plans*. The use of PMAD activity ensures that the airside has adequate capacity to accommodate activity most days of the year without overbuilding for the busiest days of the year. **Table H-1** and **Table H-2** provides a summary of the aircraft fleet mix by flight type and FAA Airplane Design Group (ADG).

Table H-1, Fleet Mix by Flight Type

Flight Type	2028	
	Design Day Operations	% of Design Day Operations
Passenger	1,760	95%
General Aviation	84	5%
Cargo	14	1%
Military	2	0%
Total	**1,860**	**100%**

Source: Landrum & Brown analysis, 2020

Table H-2, Fleet Mix by Design Group

FAA ADG	2028	
	Number of Operations	% of Total Operations
I	20	1%
II	494	27%
III	1,309	70%
IV	16	1%
V	21	1%
Total	**1,860**	**100%**

Source: Landrum & Brown analysis, 2020

1 *Capacity/Delay Analysis and Airfield Modeling Technical Memorandum*, Charlotte Douglas International Airport Environmental Impact Statement, VHB in association with TransSolutions, 7/6/2018.

H.3 Future (2028) Baseline Operating Assumptions

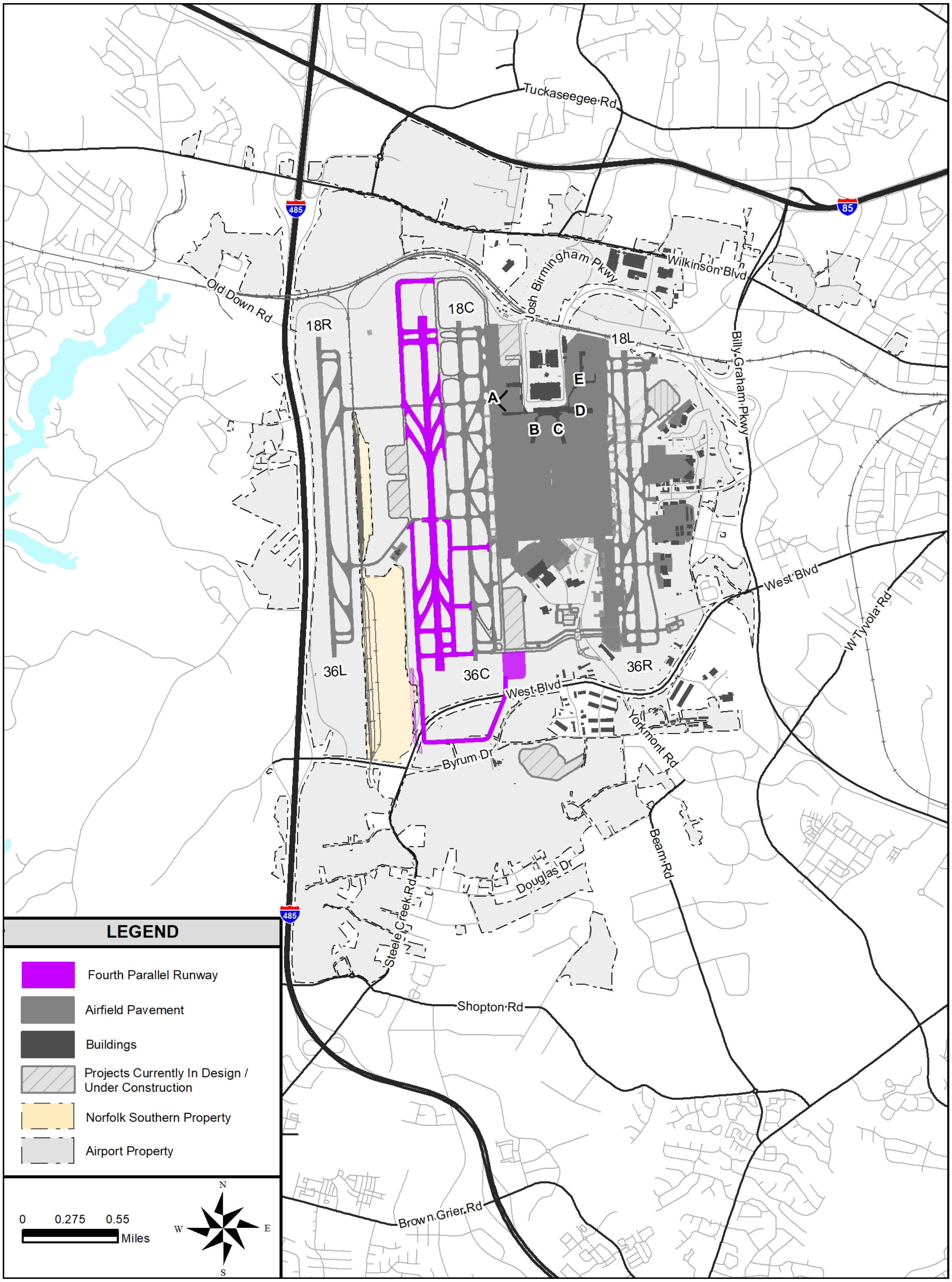
A 10,000-foot long fourth parallel runway (herein referred to as Runway 01/19) is expected to be operational in the Future (2028) Baseline condition, as shown on **Exhibit H-1**. The north end around taxiway (NEAT) and south end around taxiway (SEAT) on the west side of the airport are expected to be operational as well. The simulations of the Future (2028) Baseline condition assume terminal area taxiway improvements and additional gate capacity are also in place. The Part 150 Future (2028) Baseline operating assumptions are summarized in the sections that follow.[2]

H.3.1 Runway Configuration

Runway 01/19 has 3,200 feet of separation to Runway 18R/36L and 1,100 feet of separation to Runway 18C/36C. In the Future (2028) Baseline scenario, Runways 18R/36L, 18C/36C, and 18L/36R were assumed to be used by arrivals to provide simultaneous triple independent approaches capability during arrival peaks. Runways 01/19 and 18L/36R were assumed to be used for departures. During off-peak periods when arrival demand is sparse, Runway 18C/36C can be used for departures instead of Runway 01/19 to avoid crossing Runway 18C/36C. The Future (2028) Baseline runway operating configuration is depicted on **Exhibit H-2**.

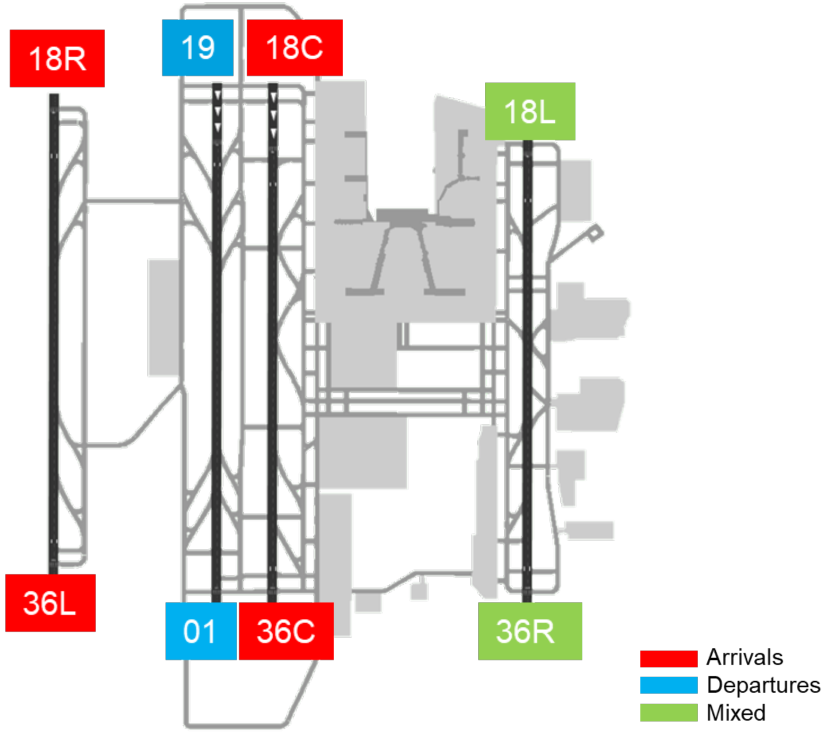
[2] See February 2022 *Environmental Assessment for Capacity Enhancement Projects* (EA), Appendix B, *Purpose and Need and Alternatives*, for a more detailed description of the modeling assumptions that were used as the basis of the Part 150 modeling.

Exhibit H-1, Future Airport Layout



Source: Landrum & Brown analysis, 2024.

Exhibit H-2, Future (2028) Baseline Runway Configuration



Notes: Mixed refers to use of the runway for arrivals and departures.
Runway 18C/36C is primarily an arrival runway but can be used for departures when traffic is sparse.
Source: Landrum & Brown analysis, 2023

H.3.2 Runway Operating Configurations

For each simulation scenario, the four primary (most frequently used) runway operating configurations at CLT were modeled:

- North Flow Visual Meteorological Conditions (VMC)
- North Flow Instrument Meteorological Conditions (IMC)
- South Flow VMC
- South Flow IMC

The FAA Aviation System Performance Metrics (ASPM) runway usage/weather data from 2019 was used to determine the frequency of each configuration. The usage shares are shown in **Table H-3**.

Table H-3, Runway Configuration Usage

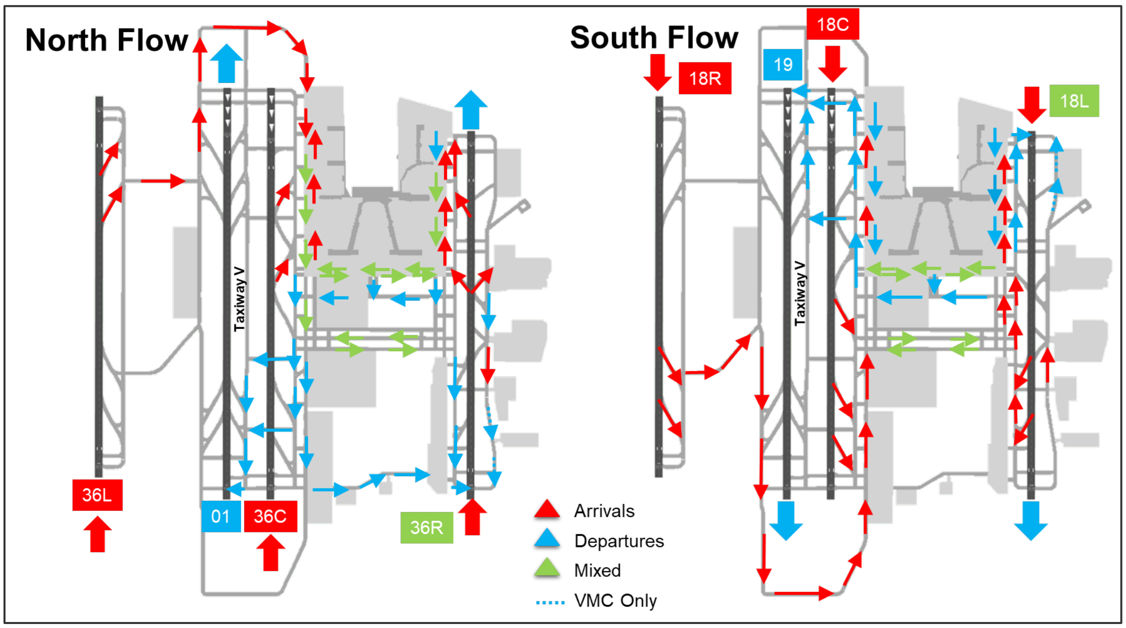
Configuration	Usage Share
North VMC	51.8%
North IMC	11.7%
South VMC	27.5%
South IMC	9.0%

Notes: Percentages reflect average annual use.
VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: FAA ASPM Airport Efficiency Report for 2019

H.3.3 Airfield Taxi Flows

The taxi flows assumed for the Future (2028) Baseline are shown on **Exhibit H-3**. Aircraft use the crossfield taxiways to move traffic between the east and west sides of the airfield. Traffic on the dual taxilanes abutting the ramp area is unidirectional to avoid head-on conflicts. Runway 01/19 departures cross Runway 18C/36C to access the departure queue on Taxiway V. Two locations are used in both flows to allow for two simultaneous crossings of Runway 18C/36C between each pair of arrivals. The departures would not use the EAT to reach Runway 01/19 to avoid taxiing under approaching aircraft, which would require coordination with arriving aircraft.

Exhibit H-3, Future (2028) Baseline Taxi Routes



Note: Mixed refers to use by arrivals and departures.
Source: Landrum & Brown analysis and ATCT feedback, 2023

H.3.4 Aircraft Separations

Aircraft separation is measured as the space between consecutive aircraft operations. **Table H-4** presents the simulated minimum in-trail separations in terms of distance for arrivals and in terms of time for departures. The separation required depends on the airport weather conditions. IMC conditions occur when there is low visibility and/or a low cloud ceiling. Aircraft are required to maintain greater separations during IMC. The separation requirements have a large effect on the operating capacity of the Airport.

Table H-4, Simulated Aircraft Separations

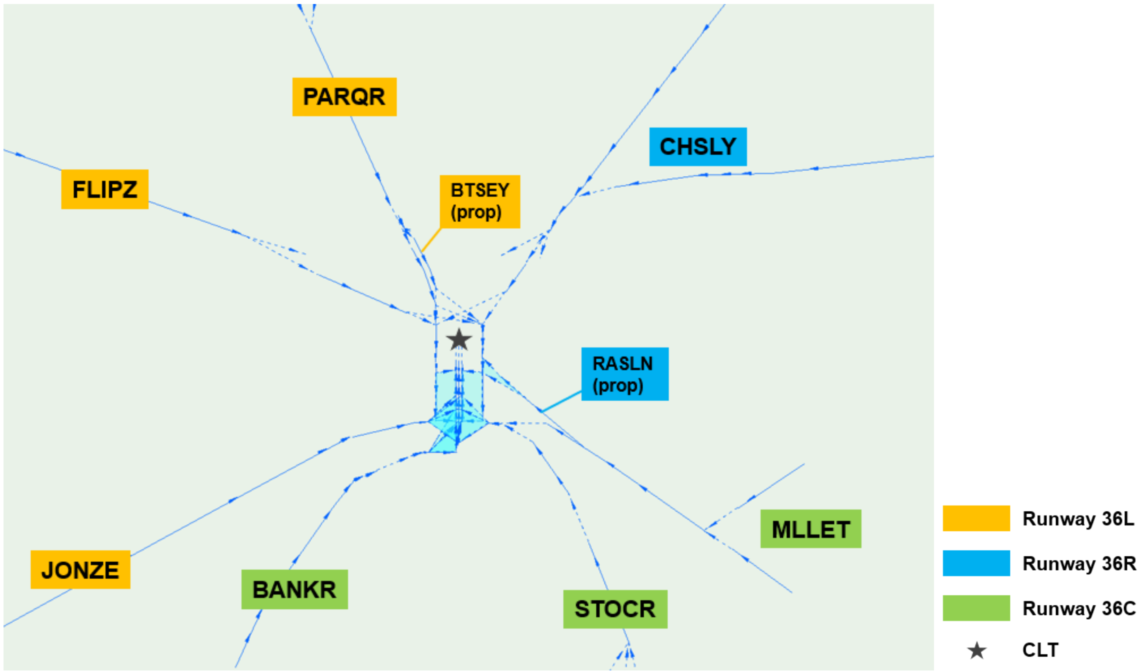
	VMC	IMC
Minimum Arrival Separation	2.5 nautical miles	3.8 nautical miles
Minimum Departure Separation	60 seconds	72 seconds

Notes: Departure heading separations reflect the fact that each departure runway has a single departure heading. VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: February 2022 *Environmental Assessment for Capacity Enhancement Projects*; Landrum & Brown analysis, 2020

H.3.5 Airspace Structure

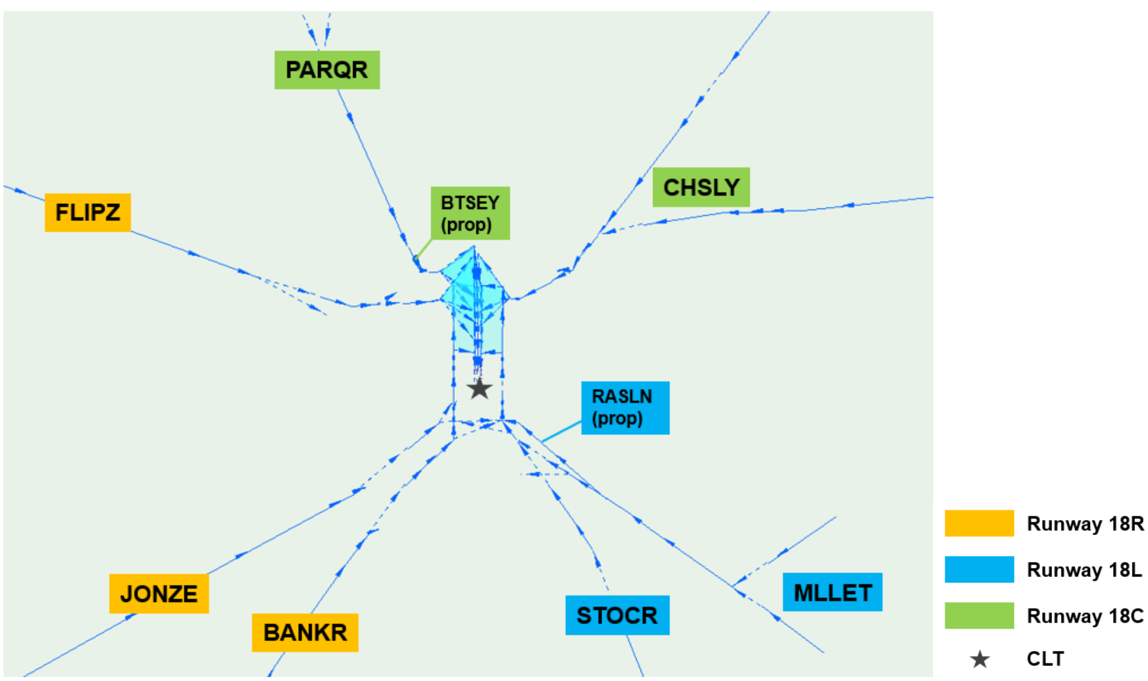
Exhibit H-4 and **Exhibit H-5** show the Future (2028) Baseline arrival fix assignments for each arrival runway. Arrival traffic can be swapped between runways to balance runway loads.

Exhibit H-4, Future (2028) Baseline North Flow Arrival Route Structure



Note: Arrivals can be offloaded to other runways during busy periods.
Source: FAA terminal procedures; Landrum & Brown analysis, 2020

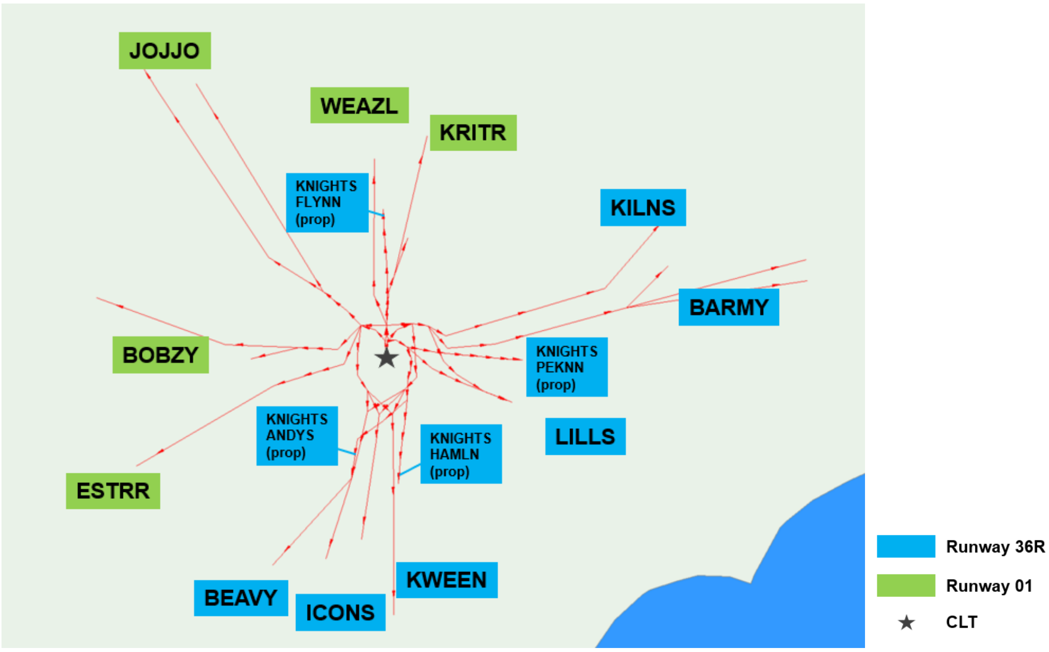
Exhibit H-5, Future (2028) Baseline South Flow Arrival Route Structure



Note: Arrivals can be offloaded to other runways during busy periods.
Source: FAA terminal procedures; Landrum & Brown analysis, 2020

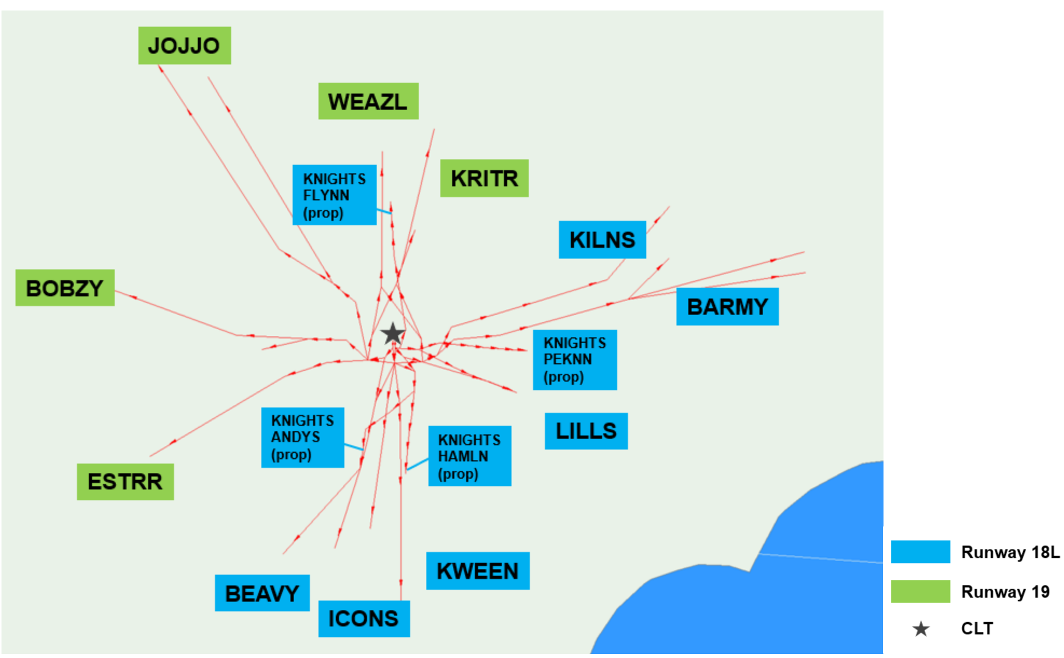
Exhibit H-6 and **Exhibit H-7** present the primary fix allocation for each departure runway for the Future (2028) Baseline condition. Departures to the north and west are assigned to Runway 01/19, while all propeller traffic and departures to the east and south are assigned to Runway 18L/36R.

Exhibit H-6, Future (2028) Baseline North Flow Departure Route Structure



Note: Departures to north and south fixes can be swapped between runways to balance the airfield.
Source: FAA terminal procedures; Landrum & Brown analysis, 2020

Exhibit H-7, Future (2028) Baseline South Flow Departure Route Structure



Note: Departures to north and south fixes can be swapped between runways to balance the airfield.
Source: FAA terminal procedures; Landrum & Brown analysis, 2020

H.4 Future (2028) Baseline Modeling Results

The results of the Future (2028) Baseline simulation models are presented in **Table H-5**. The unimpeded taxi time, delay, and hourly throughput results are listed for arrivals, departures, and total airport operations by weather and flow configurations.

Table H-5, Future (2028) Baseline Results

		North Flow		South Flow	
		VMC	IMC	VMC	IMC
Unimpeded Taxi Time	Avg arrival (min)	8.6	8.4	10.3	10.6
	Avg departure (min)	14.1	14.3	11.9	12.2
	Avg total (min)	11.4	11.4	11.1	11.4
Delay	Avg arrival (min)	4.9	6.2	4.8	7.1
	Avg departure (min)	4.6	9.4	4.3	8.0
	Avg total (min)	4.7	7.8	4.5	7.6
Throughput	Peak arrival	80	77	80	75
	Peak departure	82	73	82	74
	Peak total	147	139	147	139

Notes: The 90th percentile hourly departure throughput is shown in as an approximation of peak throughput. VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: Landrum & Brown analysis, 2023

The unimpeded taxi time captures the time the aircraft spends taxiing from the runway exit to the gate for arrivals and from gate pushback to the runway end for departures. North flow and south flow have similar unimpeded taxi times.

The delay results are a function of congestion experienced by the aircraft. Arrival delay includes air delay and taxi delay. Departure delay includes gate delay, taxi delay, and runway queue delay. IMC delay is higher than VMC delay because of the increased runway separation requirements and runway dependencies between the center runways.

The throughput shown are the 90th percentile hourly throughput rates, which are used as a measure of sustained, repeatable capacity. Higher throughputs are achievable for brief time periods or can be achieved with a higher scheduled demand level (and higher delay). The airport is well balanced between arrivals and departures throughputs.

H.5 Part 150 Noise Abatement Alternatives

The Part 150 study identified several noise abatement alternatives for consideration at CLT. Select alternatives were simulated to analyze their impact on airport operations, taxi time, and delay. Noise abatement alternatives were selected for simulation if it were felt they would have an impact on operational capacity or performance.

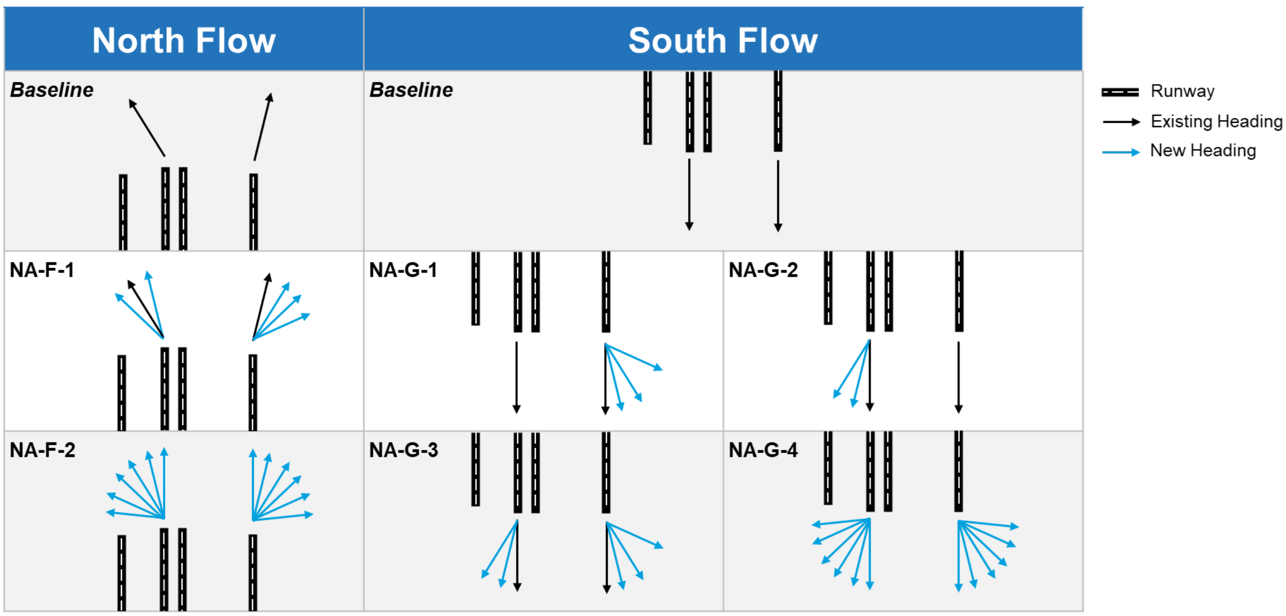
H.5.1 Diverging Headings Alternatives

CLT currently operates with one departure heading per runway in both north and south flows, an assumption maintained in the Future (2028) Baseline. In addition, south flow has an additional restriction that requires departures to maintain the runway heading within two miles of the runway end.

One set of Part 150 alternatives considers allowing multiple diverging headings from the departure runways. The diverging headings alternatives increase the number of headings per runway from one to anywhere from three to six, depending on the alternative. The departure load for each runway was assumed to be distributed evenly across the headings. The simulations assume the airspace would be able to be redesigned to allow multiple headings and not be constrained. The implementation of the proposed headings aims to reduce net noise impacts by dispersing flights over a wider area.

Exhibit H-8 summarizes the diverging heading alternatives simulated in this study. Two alternatives were considered for north flow (Alternatives NA-F-1 and NA-F-2) and four alternatives were considered for south flow (Alternatives NA-G-1, NA-G-2, NA-G-3, and NA-G-4). The first two south flow alternatives only add diverging headings to one runway to maintain the existing procedure of not turning within two miles of the runway end on the other runway. North flow does not have a similar restriction, so all north flow alternatives have diverging headings on both runways.

Exhibit H-8, Diverging Headings Alternatives



Note: Runway 18L/36R and the new fourth parallel runway were assumed to be the primary departure runways so only departure headings from those two runways are shown.
Source: Landrum & Brown analysis, 2023

H.5.1.1 Assumptions

Departure aircraft separation requirements for the diverging headings alternatives are shown in **Table H-6**. Consecutive aircraft using the same heading maintain the 60 seconds (VMC) or 72 seconds (IMC) minimum separation requirement from the Future (2028) Baseline. Consecutive aircraft using different headings can depart if the front aircraft has traveled at least 6,000 feet (VMC) or 8,000 feet (IMC) along the runway and has become airborne. Depending on the speed of the aircraft, the distance usually equates to a time less than the consecutive heading times, allowing aircraft to depart sooner if it is using a different heading than the preceding aircraft (about 45-55 seconds in VMC and 55-65 seconds in IMC).

Table H-6, Departure Aircraft Minimum Separations

	VMC	IMC
Consecutive aircraft using same heading	60 seconds	72 seconds
Consecutive aircraft using different headings	6,000 ft and front aircraft airborne (~45-55 seconds)	8,000 ft and front aircraft airborne (~55-65 seconds)

Note: VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: Landrum & Brown analysis and ATCT feedback, 2023

The diverging headings alternatives retain the same arrival runway separation requirement, runway configuration, taxi flow, and airspace structure as the Future (2028) Baseline.

H.5.1.2 North Flow Diverging Headings Results

The results of the north flow divergent headings alternatives (NA-F-1 and NA-F-2) are compared to the Future (2028) Baseline results in **Table H-7.** In VMC, the departure throughput increases by 1 operation/hour during the peak hour in Alternatives NA-F-1 and NA-F-2 as compared to the Future (2028) Baseline. In IMC, when airport operations are more constrained, the throughput increases by four to five operations/hour during the peak hour. Alternative NA-F-2, with 12 total headings, performs similar to Alternative NA-F-1, which has seven total headings. The incremental improvement of additional headings beyond seven are small, however they do provide additional flexibility to air traffic controllers.

Table H-7, Future (2028) Baseline and Diverging Heading Alternatives North Flow Capacity Results

		North Flow		
		Baseline	NA-F-1	NA-F-2
Total # of Headings on Departure Runways		*2*	*7*	*12*
VMC	Departure Throughput	*82*	*83*	*83*
VMC	Count of 60 sec separation (approx)	620	50	10
VMC	Count of <60 sec separation (approx)	-	510	530
IMC	Departure Throughput	*73*	*77*	*78*
IMC	Count of 72 sec separation (approx)	470	40	20
IMC	Count of <72 sec separation (approx)	-	440	470

Notes: The airport-wide 90th percentile hourly departure throughput is shown as an approximation of capacity.
The count of separations for each alternative do not sum to the same number because separations greater than 60/72 seconds are not listed in the table.
VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: Landrum & Brown analysis, 2023

The daily count of flights that depart with a of separation of 60/72 seconds and a separation of less than 60/72 seconds are also listed. Note that the counts do not add up to the total number of operations per day because departures with separation greater than 60/72 seconds are not listed. Those flights depart during the off-peak periods and are not relevant to the throughput capacity comparison. In the Future (2028) Baseline, all flights depart with a separation of 60/72 seconds or greater. In the diverging headings alternatives, most flights depart with less than 60/72 seconds separation, and the departure queue dissipates quicker, allowing more flights operations to occur after the departure peak passes.

The reduced separation requirements allow for an increase in throughput on the runways. However, the increase is small because operations are not constrained by runway capacity at the simulated

2028 demand, particularly in VMC. Additionally, the schedule is highly banked, with periods of decreased demand that allow queues to dissipate and prevent departures from spilling over to the next hour. Greater throughput improvements are likely to be observed at higher demand levels. It is important to note that the additional headings provide controllers with operational flexibility and the ability to sequence departures, which may not be discernable in the 2028 simulations.

Table H-8 describes the unimpeded taxi time and delay for both VMC and IMC, comparing the Future (2028) Baseline with Alternatives NA-F-1 and NA-F-2. Unimpeded taxi times remain the same because all alternatives share the same taxi routes and runway assignment assumptions. Slight differences in the taxi time results are due to modeling variation. Departure delay decreases because the additional headings allow aircraft to depart with smaller separations, and therefore reduce wait times in the departure queue. Arrival delay decreases slightly because runways can switch from departure priority to arrival priority sooner. As with the throughput results, Alternative NA-F-2 only provides slight improvement over Alternative NA-F-1.

Table H-8, Future (2028) Baseline and Diverging Heading Alternatives North Flow Taxi Time and Delay Results

North Flow			Baseline	NA-F-1	NA-F-2
Total # of Headings on Departure Runways			*2*	*7*	*12*
Unimpeded Taxi Time	VMC	Avg arrival (min)	8.6	8.5	8.5
		Avg departure (min)	14.1	14.1	14.1
		Avg total (min)	11.4	11.3	11.3
	IMC	Avg arrival (min)	8.4	8.3	8.4
		Avg departure (min)	14.3	14.2	14.3
		Avg total (min)	11.4	11.3	11.3
Delay	VMC	Avg arrival (min)	4.9	4.8	4.8
		Avg departure (min)	4.6	3.4	3.3
		Avg total (min)	4.7	4.1	4.0
	IMC	Avg arrival (min)	6.2	6.1	6.0
		Avg departure (min)	9.4	7.0	6.8
		Avg total (min)	7.8	6.6	6.4

Notes: Arrival delay includes air delay and taxi delay. Departure delay includes gate delay, taxi delay, and runway queue delay.
VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: Landrum & Brown analysis, 2023

H.5.1.3 South Flow Diverging Headings Result

The results of the south flow divergent headings alternatives (Alternatives NA-G-1, NA-G-2, NA-G-3, and NA-G-4) are compared to the Future (2028) Baseline results in **Table H-9.** In VMC, the departure throughput increases by one operation/hour during the peak hour for Alternative NA-G-4 and does not change for the other alternatives. Departure throughput in IMC increases by three to five operations/hour during the peak hour.

Table H-9, Future (2028) Baseline and Diverging Heading Alternatives South Flow Capacity Results

		South Flow				
		Baseline	NA-G-1	NA-G-2	NA-G-3	NA-G-4
Total # of Headings on Departure Runways		*2*	*5*	*4*	*7*	*12*
VMC	Departure Throughput	*82*	*82*	*82*	*82*	*83*
	Count of 60 sec separation (approx)	570	280	410	80	20
	Count of <60 sec separation (approx)	-	270	170	430	510
IMC	Departure Throughput	*74*	*77*	*77*	*78*	*79*
	Count of 72 sec separation (approx)	510	210	400	90	30
	Count of <72 sec separation (approx)	-	280	120	420	500

Notes: The airport-wide 90th percentile hourly departure throughput is shown in as an approximation of capacity. The count of separations for each alternative do not sum to the same number because separations greater than 60/72 seconds are not listed in the table.
VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: Landrum & Brown analysis, 2023

The additional headings increase the number of occurrences of separations less than 60/72 seconds. Alternative NA-G-2, with the fewest number of headings, results in the lowest number of separations less than 60/72 seconds. Alternative NA-G-1, with one additional heading, performs slightly better. Alternatives NA-G-3 and NA-G-4, with multiple headings on each runway, result in the highest number of reduced separations.

As observed in the north flow models, diverging heads increase the throughput on the runways. However, the increase is small because operations are not constrained by runway capacity at the simulated 2028 demand, especially in VMC.

Table H-10 describes the unimpeded taxi time and delay for both VMC and IMC, comparing the Future (2028) Baseline with Alternative NA-G-1, NA-G-2, NA-G-3, and NA-G-4. Similar to north flow, unimpeded taxi times are unchanged across the different alternatives. Departure delay decreases across the board because diverging headings allow aircraft to depart faster and therefore reduce wait times in the departure queue, particularly in IMC. Arrival delay also decreases slightly.

Table H-10, Future (2028) Baseline and Diverging Heading Alternatives South Flow Taxi Time and Delay Results

South Flow			Baseline	NA-G-1	NA-G-2	NA-G-3	NA-G-4
Total # of Headings on Departure Runways			*2*	*5*	*4*	*7*	*12*
Unimpeded Taxi Time	VMC	Avg arrival (min)	10.3	10.3	10.4	10.3	10.3
		Avg departure (min)	11.9	11.9	12.0	11.9	11.9
		Avg total (min)	11.1	11.1	11.2	11.1	11.1
	IMC	Avg arrival (min)	10.6	10.6	10.6	10.5	10.5
		Avg departure (min)	12.2	12.1	12.2	12.1	12.0
		Avg total (min)	11.4	11.3	11.4	11.3	11.3
Delay	VMC	Avg arrival (min)	4.8	4.6	4.6	4.6	4.6
		Avg departure (min)	4.3	3.8	4.0	3.5	3.4
		Avg total (min)	4.5	4.2	4.3	4.1	4.0
	IMC	Avg arrival (min)	7.1	6.9	7.0	7.1	7.0
		Avg departure (min)	8.0	6.5	7.2	5.6	5.5
		Avg total (min)	7.6	6.7	7.1	6.4	6.2

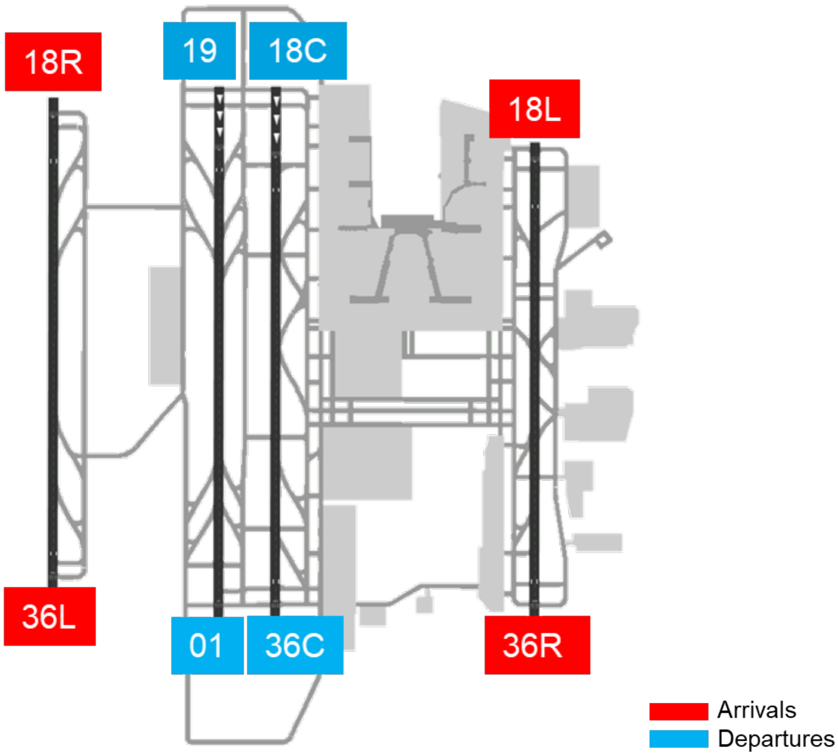
Notes: Arrival delay includes air delay and taxi delay. Departure delay includes gate delay, taxi delay, and runway queue delay. VMC=visual meteorological conditions; IMC=instrument meteorological conditions.
Source: Landrum & Brown analysis, 2023

H.5.2 Alternative NA-D-7

H.5.2.1 Assumptions

NA-D-7 assumes a different runway usage configuration than the Future (2028) Baseline for VMC. In the Future (2028) Baseline, Runways 18R/36L, 18C/36C, and 18L/36R are used for arrivals whereas Runways 01/19 and 18L/36R are used for departures. In NA-D-7, Runways 18R/36L and 18L/36R are used primarily for arrivals, while the two center runways, Runways 01/19 and 18C/36C, are used primarily for departures. During off-peak periods when demand is sparse, Runway 18C/36C could be used for arrivals. The runway usage is depicted in **Exhibit H-9**.

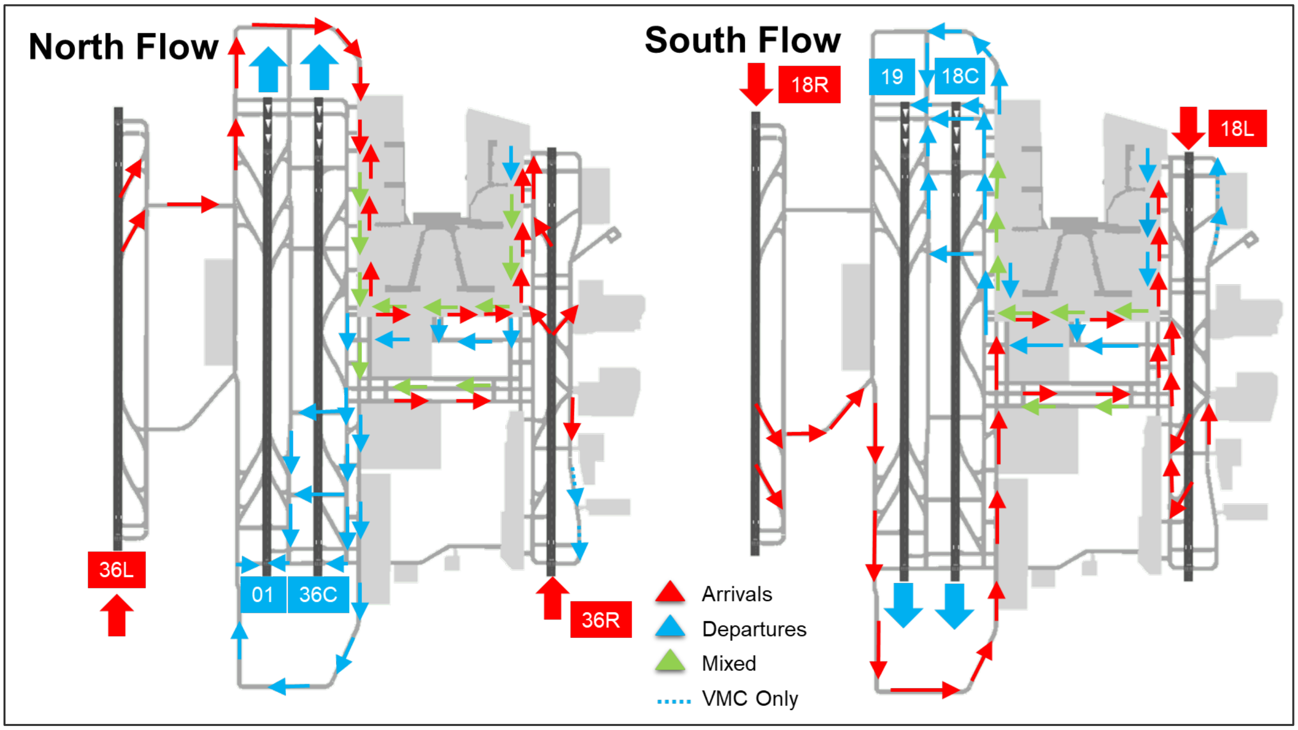
Exhibit H-9, NA-D-7 Runway Configuration



Source: Landrum & Brown analysis, 2023

To feed the departure runways, all traffic from the terminal area must taxi west to reach the two center runways. Runway 01/19 departures cross Runway 18C/36C to access the runway entry when there is no queue on Runway 18C/36C. When there are aircraft waiting to depart Runway 18C/36C, Runway 01/19 departures use the NEAT or SEAT. Departures can use the EAT because there are no approaching aircraft overhead. Arrivals to Runways 18R/36L and 18L/36R taxi to the terminal area following the same path as in the Future (2028) Baseline. The taxi flows are depicted in **Exhibit H-10**.

Exhibit H-10, NA-D-7 Taxi Routes



Note: Mixed refers to use by arrivals and departures.
Source: Landrum & Brown analysis and ATCT feedback, 2023

The airspace structure of NA-D-7 remains similar to the Future (2028) Baseline airspace. Arrivals to Runways 18R/36L and 18L/36R retain their Future (2028) Baseline fix assignments, whereas arrivals originally assigned to Runway 18C/36C are split among Runways 18R/36L and 18L/36R. Departures from Runways 01/19 retain their fix assignments, whereas departures from Runway 18L/36R in the Future (2028) Baseline are reassigned to Runway 18C/36C. General aviation (GA) propeller departures remain on Runway 18L/36R due to the proximity of the GA apron to Runway 18L/36R.

H.5.2.2VMC Results

The results of the NA-D-7 simulation runs are listed in **Table H-11**. Compared with the Future (2028) Baseline, NA-D-7 results in higher taxi time, higher delay, and lower throughput. The increase in departure taxi time is partially due to a larger concentration of gates being located closer to Runway 18L/36R than to Runway 18C/36C, and partially due to the use of the EATs for Runway 01/19 departures. The increase in arrival delay and decrease in arrival throughput is caused by the loss of triple independent approaches and the resulting capacity decrease. The change in runway usage allows two runways to be fully dedicated to departures, reducing departure delay. However, the reduction in departure delay is smaller than the increase in arrival delay, resulting in an overall increase in delay.

Table H-11, Future (2028) Baseline and NA-D-7 VMC Results

		North Flow		South Flow	
		Baseline	NA-D-7	Baseline	NA-D-7
Unimpeded Taxi Time	Avg arrival (min)	8.6	8.6	10.3	10.9
	Avg departure (min)	14.1	15.9	11.9	13.5
	Avg total (min)	11.4	12.3	11.1	12.2
Delay	Avg arrival (min)	4.9	7.5	4.8	7.0
	Avg departure (min)	4.6	3.4	4.3	3.6
	Avg total (min)	4.7	5.4	4.5	5.3
Throughput	Peak arrival	80	75	80	75
	Peak departure	82	83	82	82
	Peak total	147	144	147	146

Notes: The 90th percentile hourly departure throughput is shown in as an approximation of peak throughput. VMC=visual meteorological conditions.
Source: Landrum & Brown analysis, 2024

H.5.2.3IMC Operations

Under IMC, departures from the two center runways would run with a stagger equal to same runway separations, causing the two runways to effectively operate with the capacity of one runway. Simulation modeling showed the runways are unable to satisfy the demand, with departure queues building up throughout the day and not dissipating until past midnight. Therefore, CLT should not operate with the NA-D-7 configuration during IMC. CLT should operate with the Future (2028) Baseline runway operating configuration if visual approaches are no longer possible.